



Glenn Research Center



Turbulent Gas Jet Diffusion Flames (TGDF)

◆ Objectives

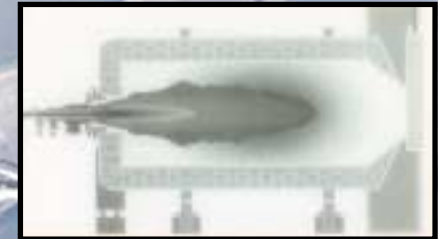
To understand the processes that occur during flame–vortex interaction in diffusion flames

◆ Motivation

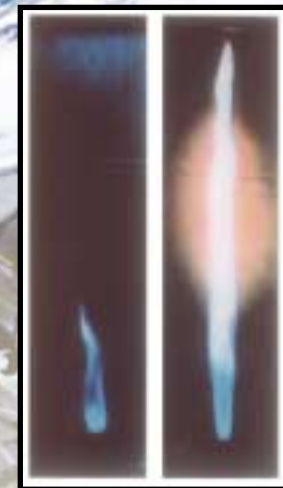
Controlled flame–vortex interactions cannot be obtained in normal gravity due to buoyancy induced instabilities

◆ Benefits

- Enhanced understanding of unit processes of turbulent combustion
- Improved modeling of flame processes in engines, furnaces, and combustors



Turbulent diffusion flame in an industrial furnace



Turbulent propane diffusion flame under both normal gravity and microgravity conditions